NON-PUBLIC?: N
ACCESSION #: 8901190007
LICENSEE EVENT REPORT (LER)

FACILITY NAME: PLANT VOGTLE - UNIT 1 PAGE: 1 OF 4

DOCKET NUMBER: 05000424

TITLE: MANUAL REACTOR TRIP ON LOW STEAM GENERATOR LEVEL ON LOSS OF INSTRUMENT
AIR
EVENT DATE: 12/15/88 LER #: 88-043-00 REPORT DATE: 01/13/89

OPERATING MODE: 1 POWER LEVEL: 099

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: J. E. SWARTZWELDER, NUCLEAR SAFETY TELEPHONE: 404 826-3618
AND COMPLIANCE MANAGER

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE TO NPRDS:

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

On December 15, 1988, at approximately 1340 CST, while performing a functional test of the service air dryer, instrument air was isolated from the turbine building. This resulted in a reduction of main feedwater flow and decreasing water level in the steam generators. Load was reduced; however, steam generator water levels continued to decrease. When water levels reached 25 percent, the reactor was manually tripped at the direction of the unit shift supervisor.

This event occurred because the set point of the pressure switch for turbine building instrument air isolation was 15 pounds above normal. This resulted in the isolation of turbine building instrument air prior to the isolation of service air. A contributing cause was a screw head which blocked control air to the blowd
wn and inlet isolation valves of the service air dryer and allowed an open path to the atmosphere

Corrective actions included changing the frequency of calibration of applicable pressure switches, counseling operators on the use of procedures, adding precautions to procedures that may challenge the air system, and issuing a memo to operators on lessons learned from this event.

END OF ABSTRACT

A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73 (a)(2)(iv), because an unplanned manual trip of the reactor occurred.

B. UNIT STATUS AT TIME OF EVENT

The unit was in Mode 1 (Power Operations) at 99.5% rated thermal power when the event occurred. No inoperable equipment, other than that identified in this report, contributed to this event.

C. DESCRIPTION OF EVENT

On December 15, 1988, at approximately 1325 CST, clearance 1-88-5000 was released for functional testing of the service air dryer. At approximately 1340 CST, a plant equipment operator (PEO) valved in the service air dryer per the functional test requirements. (System Operating Procedure 13710-1. "Service Air System", was not used).

At approximately 1343 CST, control room operators received a SERVICE AIR HDR LO PRES annunciation and observed a decreasing service and instrument air pressure. Air compressor #1 was started manually from the control room. A second PEO was dispatched to instruct the first PEO to isolate the service air dryer and to assist in the isolation of the air dryer. The PEOs isolated the air dryer. The control room operators followed Abnormal Operating Procedure 18028-1, "Loss of Instrument Air," and believed that isolation of service air had terminated the instrument air transient. Service air was observed to be isolated based on instrument air pressure leveling at 80 psig (a pressure 10 psi greater than the instrument air isolation setpoint), while service air pressure continued to drop. Instrument air pressure returned to normal. During the air system transient an INSTR AIR EQUIP LO PRESS ISO annunciation was received, indicating that instrument air was isolated to turbine building loads. However, this was in disagreement with the indicated air pressure, since the indicated air pressure was 10 psi greater than the alarm setpoint.

The loss of instrument air to the turbine building caused (1) the extraction

steam valves to close; (2) heater high level dump valves to open causing a drop in heater drain tank level resulting in a trip of the heater drain pumps; and (3) main feed pump mini-flow valves to fail open.

Concurrently, at 1345 CST, the control room operators received steam generator water level control alarms (flow mismatch and low levels), indication of increasing feed pump speed and feedwater heater trouble alarms. The control room operators began to reduce load. Steam generator levels continued to drop and when the 2#5 percent level was reached, the reactor was manually tripped at the direction of the unit shift supervisor.

D. CAUSE OF EVENT

This event was caused by:

1. The set point of the pressure switch for turbine building instrument air isolation was found to be 15 pounds above normal. This resulted in isolation of turbine building instrument air prior to the isolation of service air;

2. A screw head (philips head) blocked the control air to the blowdown isolation and inlet isolation valves, resulting in their failure to close and allowing an open path for air to escape to atmosphere;

3. The utilization of a functional test procedure instead of a system operating procedure. If System Operating Procedure 13710-1, "Service Air System," had been used to test the dryer, the problem with the blowdown isolation and inlet isolation valves would have been detected;

4. Excessive service air demand was experienced on the previous shift while attempting the functional test of the dryer. The excessive air demand was not anticipated during the second functional test because of insufficient communication during shift turnover, and;

5. Service air isolations have previously occurred. These events were not evaluated for this type of system interaction; consequently the operators were not aware of the potential significance of this type of event.

E. ANALYSIS OF EVENT

The loss of instrument air to the turbine building due to the incorrect

pressure switch setting was significant in that subsequent events resulted in a manual reactor trip. However, all turbine building systems functioned as designed and the control room personnel took appropriate actions to mitigate the event. Therefore, it is concluded that this event did not have any impact on plant safety or the health and safety of the public.

F. CORRECTIVE ACTIONS

1. As an interim measure, the calibration frequency of pressure switches 1-PSL-19414 and 1-PSL-9375 have been changed from 2 years to 30 days. An appropriate calibration frequency will be established by trending the setpoint drift of the instruments.

2. Required corrective maintenance was completed and the service air dryer was returned to service.

3. Plant operators have been counseled on the use of procedures.

4. A memo was issued to all operators stressing the importance of work planning, communication of problems experienced during shift turnover, and not relying solely on a clearance release for placing major pieces of equipment in service.

5. An evaluation has been completed and procedure changes, which are expected to be completed by March 1, 1989, have been initiated to add precautions to procedures which may result in air system transients.

G. ADDITIONAL INFORMATION

1. Previous Similar Events

None

2. Failed Components

None

3. Energy Industry Identification System Code
Instrument Air Supply System - LD
Service Air System - LF
Feedwater/Steam Generator Water Level Control System - JB
HP Heater and MSR Drains and Vents System

ELV-00160

X7GJ17-V310
0081M

January 13, 1989

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

NRC DOCKET 50-424
OPERATING LICENSE NPF - 68
PLANT VOGTLE - UNIT 1
LICENSEE EVENT REPORT
MANUAL REACTOR TRIP ON LOW STEAM GENERATOR
LEVEL ON LOSS OF INSTRUMENT AIR

Gentlemen:

In accordance with 10 CFR 73.71, Georgia Power Company hereby submits the enclosed report relating to an event which occurred on December 15, 1988.
Sincerely,

W. G. Hairston, III

PAH/llh

Enclosure: LER 50-424/1988-043-00

cc w/enclosure:
Georgia Power Company
Mr. P. D. Rice
Mr. C. K. McCoy
Mr. G. Bockhold, Jr.
Mr. M. Sheibani
Mr. J. P. Kane
VOGTLE-NORMS
GO-NORMS

U.S. Nuclear Regulatory Commission
Mr. M. L. Ernst, Acting Regional Administrator
Mr. J. B. Hopkins, Licensing Project Manager, NRR (2 copies)
Mr. J. F. Rogge, Senior Resident Inspector-Operations, Vogtle

*** END OF DOCUMENT ***

ACCESSION #: 8901190008